



RESEARCH DEPARTMENT

The service area of the Meldrum v.h.f. sound transmitters

REPORT No. K-166

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**THE BRITISH BROADCASTING CORPORATION
ENGINEERING DIVISION**

RESEARCH DEPARTMENT

THE SERVICE AREA OF THE MELDRUM VHF SOUND TRANSMITTERS

Report No. K-166

(1963/51)

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THE SERVICE AREA OF THE MELDRUM VHF SOUND TRANSMITTERS

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SUBJECT

The results of a field strength survey of the Meldrum v.h.f. sound transmitters are given in this report.

1. SUMMARIZED DESCRIPTION OF TRANSMITTERS

Band	II
Frequencies	Light: 88.7 Mc/s Third: 90.9 Mc/s Home: 93.1 Mc/s
Site height (above mean sea level)	802 ft (245 m)
Aerial height (above ground level)	290 ft (88 m)
Transmitter power	Two units, each of 4.5 kW
Aerial	Eight tiers, each of four slots
E.R.P.	55 kW
Polarization	Horizontal
H.R.P.	Omnidirectional

2. SURVEY RESULTS

Map F.166 shows the field strength contours for the v.h.f. sound transmissions. The values of field strength exceeded at 10%, 50% and 90% of the locations in towns and villages measured are given in the Appendix.

Map F.166 - MELDRUM

Band II (Measured)

SITE HEIGHT: 802 ft (245 m) a.m.s.l.

AERIAL HEIGHT: 290 ft (88 m) a.g.l.

E.R.P.: 55 kW

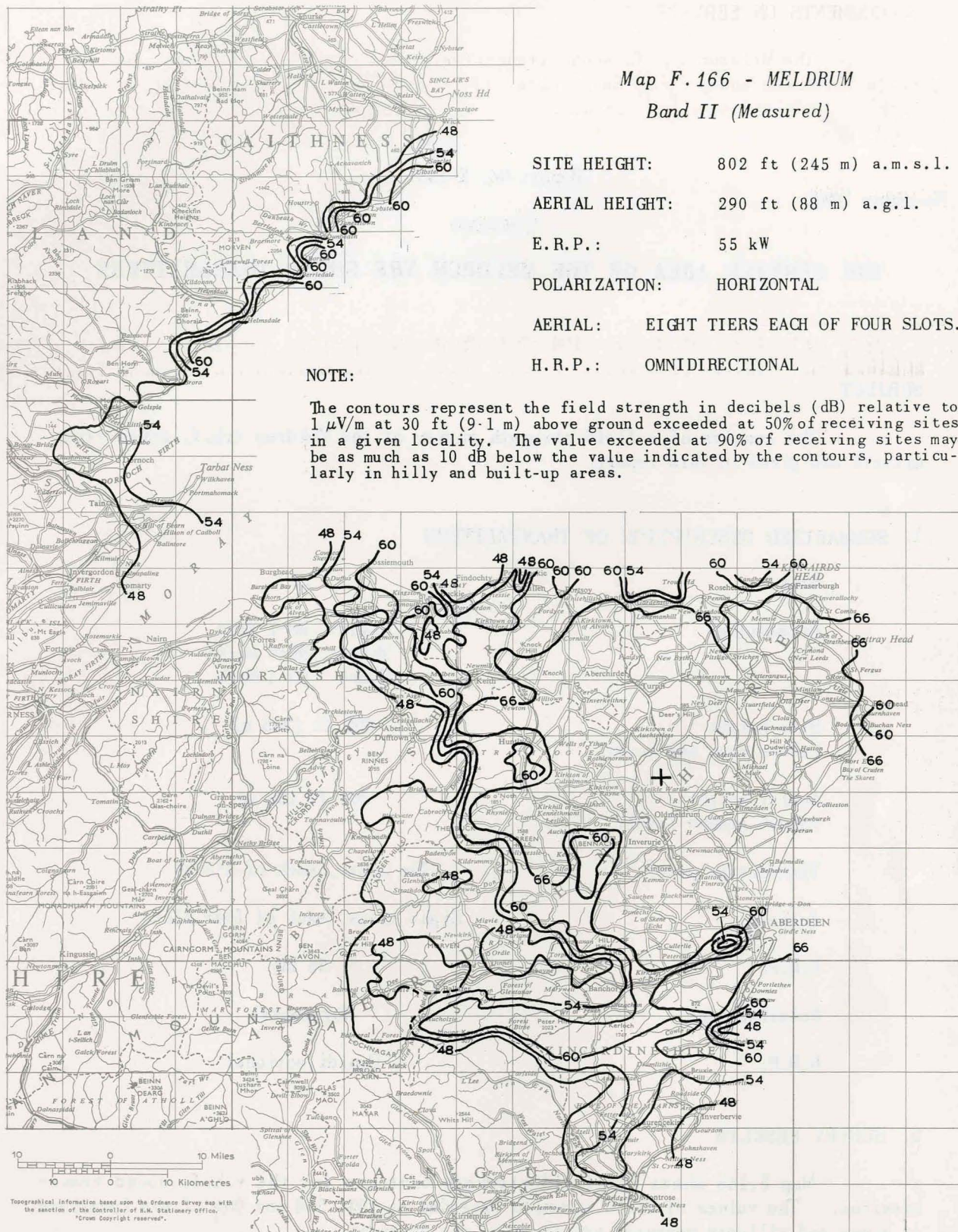
POLARIZATION: HORIZONTAL

AERIAL: EIGHT TIERS EACH OF FOUR SLOTS.

H.R.P.: OMNIDIRECTIONAL

NOTE:

The contours represent the field strength in decibels (dB) relative to $1 \mu\text{V/m}$ at 30 ft (9.1 m) above ground exceeded at 50% of receiving sites in a given locality. The value exceeded at 90% of receiving sites may be as much as 10 dB below the value indicated by the contours, particularly in hilly and built-up areas.



3. COMMENTS ON SERVICE

The Meldrum v.h.f. sound transmitters serve most of Aberdeenshire, all of Kincardineshire and part of Banffshire and Morayshire. The overlap with the Rosemarkie transmitters is no more than adequate. The gap between the service areas of the Meldrum and Kirk o'Shotts transmitters will be filled by the Forfar (Harecairn) transmitters. There remain, however, towns and villages which do not receive a v.h.f. sound service, and for which there is no stated provision for a service. Notable among these are Aberlour, Aboyne, Braemar, Ballater, Craigellachie and Dufftown; on the north coast the villages of Cullen and Portgordon are poorly served.

In addition to serving the north-eastern counties of Scotland, Meldrum provides a service to the villages on the east coast of Sutherland and Caithness to a point near Wick. The remainder of Caithness is served by Thrumster.

APPENDIX

Town	Field Strength (dB(μ V/m)) for Stated Percentage Locations		
	10%	50%	90%
Aberchirder	>94	84	79
Aberdeen	85	73	63
Aberlour	33	<30	<30
Aboyne	51	46	43
Alford	74	67	62
Arbroath	39	32	27
Auldearn	36	31	26
Aviemore	41	36	30
Ballater	44	40	37
Balmedie	71	69	65
Banchory	63	53	45
Banff	77	69	62
Blackburn	84	81	75
Boddam	60	51	47
Braemar	45	32	<27
Brechin	44	36	29
Bridge of Don	69	65	60
Brora	43	<40	<40
Buckie	49	40	30
Bucksburn	82	77	72
Burghead	47	43	40
Craigellachie	46	38	35
Crimond	73	71	66
Cruden Bay (Port Erroll)	75	66	62
Cullen	57	44	33
Cults and Bielside	57	50	47
Cuminestown	86	80	73
Dufftown	49	43	37
Dyce	81	78	75
Elgin	62	55	46
Ellon	90	85	82
Findhorn	48	45	43
Findochty	37	31	26
Fochabers	44	40	37
Fraserburgh	69	62	52
Friokheim	51	45	38
Gardens town	51	29	23
Garmouth	62	60	58
Golspie	46	42	38
Grantown-on-Spey	43	37	28

Town	Field Strength (dB(μ V/m)) for Stated Percentage Locations		
	10%	50%	90%
Hatton	81	68	60
Helmsdale	64	49	43
Hopeman	53	47	37
Huntly	68	64	57
Insch	99	94	90
Inverallochy	66	62	58
Inverbervie	52	45	39
Inverkeilor	38	34	31
Inverurie	104	98	94
Johnshaven	34	26	22
Keith	66	60	56
Kemnay	90	83	78
Kingston	67	62	59
Kinloss	50	46	43
Kintore	97	94	91
Laurencekirk	64	57	52
Letham	48	39	30
Lhanbryd	53	50	48
Longside	73	66	63
Lossiemouth	68	59	51
Lumsden	65	60	57
Macduff	70	54	43
Maud	82	76	72
Mintlaw	82	78	76
Montrose	52	46	41
Muchalls	70	64	59
New Aberdour	74	69	67
Newburgh	85	74	68
New Byth	91	84	81
New Deer	94	88	85
New Machar	85	81	77
New Pitsligo	70	65	60
Old Deer	73	68	66
Old Meldrum	101	95	92
Petercolter	72	64	58
Peterhead	69	64	57
Pitmeddan	92	90	85
Portgordon	46	38	<30
Portgower	59	53	48
Portknockie	61	53	47
Portsoy	64	56	48

Town	Field Strength (dB(μ V/m)) for Stated Percentage Locations		
	10%	50%	90%
Rhynie	77	72	67
Rosehearty	54	50	45
Roths	57	51	46
St. Combs	69	64	59
St. Cyrus	54	48	43
Sandhaven and Pittulie	61	58	55
Skateraw	64	60	52
Spey Bay	67	63	60
Stonehaven	60	52	45
Strichen	75	71	64
Stuartfield	76	71	69
Tarland	48	41	35
Tarves	102	95	93
Tomintoul	50	46	42
Torphins	68	62	51
Turriff	94	85	79
Whitehills	63	58	54

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